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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,669	07/30/2003	Akira Sekiguchi	402728	6426

23548 7590 07/09/2004

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EXAMINER	
SEVER, ANDREW T	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/629,669	SEKIGUCHI ET AL.	
	Examiner	Art Unit	
	Andrew T Sever	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 July 2003 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7/30/2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 10A, 11A, and 18A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama (US 6,888,756.)

Akiyama teaches in figures 2, 3, and 11 a lamp (150A) comprising:

An illuminant section having an illuminant for irradiating a light (22 (figure 11)), whose size is determined by an arc length and a direction of the arc length is equal to a direction of an optical axis of the lamp;

A lamp reflector (24R) whose focus (FR1) is equal to a center point of the illuminant in the illuminant section (see figure 3), for reflecting, as a parallel light flux to the optical axis, a light flux irradiated from the center point of the illuminant section by the surface of revolution (24R) around the optical axis toward a forward direction of the optical axis; and

A lamp front glass (30A) having a plate-shaped incident plane (30Ai) and a plate-shaped outgoing plane (30Ao), for receiving the parallel light flux from the lamp reflector through the incident plane and outputting the parallel light flux through the outgoing plane,

Wherein the surface of revolution of the lamp reflector is formed by a deformation of an aspherical reflection surface which is in symmetry of rotation to the optical axis, and

At least one of the incident plane and the outgoing plane (30Ao) of the lamp front glass is formed by a deformation of an aspherical lens surface which is in symmetry of rotation to the optical axis (see column 5 lines 65 though column 6 line 44 for a discussion on how the lens 30 is modified), and

The light flux is collimated to the parallel light flux traveling from the illuminant toward its irradiation direction by applying corresponding power, which is different in

light flux in order to control a distribution of a divergent angle at the outgoing plane of the lamp front glass (as shown in figure 2 the light is made parallel).

Akiyama teaches using a ellipsoidal surface of revolution for the lamp reflector instead of a paraboloid, however as is detailed in column 5 lines 65 through column 6 lines 44, the formula for developing the shape of the lens 30A is developed based on the shape of the reflector and it would be well within the skill of one of ordinary skill in the art to use instead a parabolic reflector which are commonly used instead of ellipsoidal reflectors and are known to have even more non-parallel problems then ellipsoidal reflectors as is taught by Sugawara et al. (US 6,464,362) in column 2 lines 36-55. Given that parabolic reflectors are the conventional reflector (Sugawara column 1 lines 10-14) and are cheaper, it would be obvious to one of ordinary skill in the art to substitute a parabolic reflector for the ellipsoidal reflector of Akiyama in order to use a more common part and cheaper part and to make the appropriate changes to the formula governing the shape of the lamp front glass.

With regards to applicant's claims 2 and 3:

See figure 2 where it is clear that the area where there is no outgoing light is made less by the combination of lens and reflector.

With regards to applicant's claim 4:

See figure 11, which shows a polarization conversion device (62, 64, and 66)

With regards to applicant's claim 6:

Lens 70 condenses the light onto the light valve LA, which then passes the light through a projection optical system and onto a screen as shown in figure 14.

5. Claims 5 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama as applied to claims 1-4 and 6 above, and further in view of Karasawa et al. (US 6,491,396).

As described in more detail above Akiyama teaches a lamp comprising an illuminant, a parabolic reflector, and a lamp front glass. The lamp front glass having a deformation of an aspherical lens surface. The light flux is collimated to the parallel light flux traveling from the illuminant toward its irradiation direction by applying corresponding power, which is different in light flux in order to control a distribution of a divergent angle at the outgoing plane of the lamp front glass.

Karasawa does not teach, however, a rod integrator for receiving light from a condenser lens and outputting the flux of the lights from its outgoing surface. However such integrators are well known as taught by Karasawa (for example figure 1.) Karasawa teaches in column 10 lines 25-42 that with a parabolic reflector a condenser lens is used as well. Karasawa teaches that the rod integrator is used for making the light uniform (column 10 lines 43-47). Given that rod integrators are well known and the making the light uniform improves an image display device it would be obvious to one of ordinary skill in the art at the time the invention was made to include a rod integrator in the display device taught by Akiyama.

With regards to applicant's claim 7:

See figure 1 of Karasawa for example (relay optical system (30) modulator (1000) projection lens (300), and screen (2000).)

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 2004/0120153 to Pate teaches a variety of integrators

US 5,103,381 to Uke teaches a variety lamp front glasses

US 4,457,600 to Hall teaches lamp front glass in figure 1

US 5,973,841 to Watanabe teaches in figure 1 a lamp front glass that was aspheric

US 2003/0174294 to Yanagisawa teaches in figure 1 an aspheric lens (30)

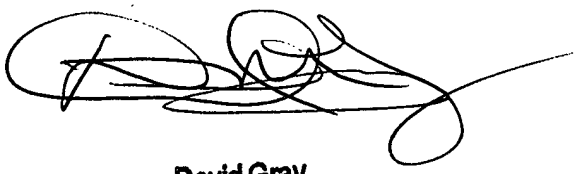
US 5,755,503 to Chen et al. teaches in figure 3 both a reflector and a lamp front glass with aspherical reflection surfaces and aspheric refraction surfaces respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 271-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



David Gray
Primary Examiner